



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,557	04/28/2006	Shinsuke Matsumoto	1033622-000022	8186
21839 7590 12/02/2009 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404				
EXAMINER				
RIOJA, MELISSA A				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
12/02/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

# Office Action Summary

Application No.

10/577,557

Applicant(s)

MATSUMOTO ET AL.

Examiner

MELISSA RIOJA

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 3 - 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3 - 10 is/are rejected.
- 7) ☒ Claim(s) 1 and 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date 6/22/09
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 14, 2009 has been entered.

### ***Claim Objections***

**Claims 1 and 4** are objected to because of the following minor informalities: all references to formula (1) have been deleted from the claims. However, it does not appear the structure representing formula (1) has been deleted. For the purposes of further examination, it is presumed that the structure corresponding to formula (1) has been deleted from the claims.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

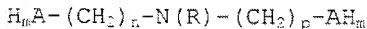
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5, and 8 - 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/58976 to Waddington et al.

Regarding Claims 1 and 3. Waddington et al. teach a flexible polyurethane foam produced by the reaction of a polyol composition and a polyisocyanate (Page 4, Line 25 – Page 5, Line 29; Page 8, Lines 22 - 34).

The polyol composition (corresponding to applicants polyol composition “A”) comprises 0 – 95 percent by weight polyol (b1) (corresponding to applicant’s polyol B) and 5 to 100 percent by weight polyol (b2). Polyol (b1) is preferably a polyether polyol with a functionality in the range of 2 to 6 (Page 8, Line 7 - 17). Polyol (b1) may preferably have a hydroxyl value in the range of 20 to 70 KOH/g (Page 8, Line 36 – Page 9, Line 2).

Polyol (b2) may be prepared the alkoxylation of a compound of the following formula:



Polyol (b2a) of Waddington et al. corresponds to applicant’s polyol (D) when m equals 2, n and p equal an integer from 2 to 6, R is a C<sub>1</sub> to C<sub>3</sub> alkyl group, and A is nitrogen (Page 4, Line 25 – Page 5, Line 12). Polyol (b2a) may be, for example, 3,3'-diamino-n-methyldipropylamine (a.k.a. methyliminobispropylamine, the compound set forth as

polyol (D) in instant claim 3) (Column 12, Lines 23 – 26). The polyols used generally have a hydroxyl number in the range of 20 to about 800 KOH/g (Page 8, Lines 32 – 33).

While Waddington et al. are silent regarding the amine value of polyol (b2a) (applicant's polyol (D)), Waddington et al. teach a composition prepared with the claimed ingredients and specifically claimed amine compound. Waddington et al. further teach the composition is used to prepare a flexible polyurethane foam. It is thus the Office's position that it would be reasonably expected that the amine-initiated polyether polyol taught by Waddington et al. would have an amine value in the claimed range of 400 to 600 mg KOH/g.

As Waddington et al. teach polyol (b2a) is present in an amount of 0 – 95 weight percent, the range disclosed is broader than the content of polyol (D) claimed by applicant. However, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 220 F.2d 454, 105, 105 USPQ 233 (CCPA 1955) (MPEP 2144.05) At the time of the invention, it would have been obvious to a person of ordinary skill in the art to optimize the amount of polyol (b2a). These polyols are indicated to be catalytically active and, if used in a large enough amount, will eliminate the need for a catalyst entirely. Accordingly, it would be obvious to adjust the amount of polyol (b2a) such that it falls closer to the lower limit of the claimed range when more

control and a slower reaction rate is desired (Page 6, Lines 18 – 29; Page 12, Lines 27 – 30). A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney*, 617 F.2d 272, 205, 205 USPQ 215 (CCPA 1980) (MPEP 2144.05)

**Regarding Claim 5.** Waddington et al. teach a seat for an automobile comprising the foam of Claim 3 (Page 19, Lines 17 – 19).

**Regarding Claim 8.** Waddington et al. teach the foam of Claim 5 but are silent regarding a specific amount of volatile amine components in the foam. Consequently, the Office recognizes that all of the claimed effects or physical properties are not positively stated by the reference(s). However, the reference(s) teaches all of the claimed ingredient(s). Therefore, the claimed effects and physical properties, i.e. an seat with the claimed content of volatile amine components, would implicitly be achieved by a composition with all the claimed ingredients. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with *only* the claimed ingredients.

**Regarding Claim 9.** Waddington et al. teach noise insulation parts comprising the foam of Claim 3 (Page 19, Lines 17 – 19).

**Regarding Claim 10.** Waddington et al. teach the foam of Claim 9 but are silent regarding a specific amount of volatile amine components in the foam. Consequently, the Office recognizes that all of the claimed effects or physical properties are not positively stated by the reference(s). However, the reference(s) teaches all of the claimed ingredient(s). Therefore, the claimed effects and physical properties, i.e. a sound-absorbing material with a volatile amine content in the claimed range, would implicitly be achieved by a composition with all the claimed ingredients. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with *only* the claimed ingredients.

**Claims 6 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/58976 to Waddington et al., as applied to Claims 1, 3, and 5 above, and further in view of US 6,087,410 to Falke et al.

**Regarding Claims 6 and 7.** Waddington et al. teach the seating of Claim 5 but do not teach its hardness and wet heat compression set ratio. Consequently, the Office recognizes that all of the claimed effects or physical properties are not positively stated by the reference(s). However, the reference(s) teaches all of the claimed ingredient(s).

Therefore, the claimed effects and physical properties - i.e. a foam seat with a 25% LID hardness between 150 to 300 or 50 to 200 N/314 cm<sup>2</sup> and a wet heat compression set ratio of not greater than 20% - would implicitly be achieved by a composition with all the claimed ingredients. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with *only* the claimed ingredients.

Waddington et al. also do not teach the density of the foam prepared according to Claim 5. However, Falke et al. also teach a polyurethane foam prepared with a density in the range preferably from 25 to 50 kg/m<sup>3</sup> (Column 10, Lines 19 - 22). Waddington et al. and Falke et al. are analogous art as they are from the same field of endeavor, namely flexible polyurethane foams. At the time of invention, it would have been obvious to a person of ordinary skill in the art to add a blowing agent to the foam-forming composition taught by Waddington et al. in an amount sufficient to prepare a foam with a density in the range taught by Falke et al. The motivation would have been that the density taught by Falke et al. would be a suitable density for automobile seat applications (Falke et al.: Column 10, Lines 19 – 25), an intended use for the foam taught by Waddington et al. (Waddington et al.: Page 19, Lines 17 – 19).

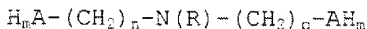


**Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/58976 to Waddington et al.

**Regarding Claim 4.** Waddington et al. teach a polyol composition comprising 0 – 95 percent by weight polyol (b1) and 5 to 100 percent by weight polyol (b2) (Page 4, Line 25 – Page 5, Line 29).

Polyol (b1) (which corresponds to applicant's polyol B) is preferably a polyether polyol with a functionality in the range of 2 to 6 (Page 8, Line 7 - 17). Polyol (b1) may preferably have a hydroxyl value in the range of 20 to 70 KOH/g (Page 8, Line 36 – Page 9, Line 2).

Polyol (b2) may be prepared the alkoxylation of a compound of the following formula:



Polyol (b2a) of Waddington et al. corresponds to applicant's polyol (D) when m equals 2, n and p equal an integer from 2 to 6, R is a C<sub>1</sub> to C<sub>3</sub> alkyl group, and A is nitrogen (Page 4, Line 25 – Page 5, Line 12). Polyol (b2a) may be, for example, 3,3'-diamino-n-methyldipropylamine (a.k.a. methyliminobispropylamine, the compound set forth as polyol (D) in instant claim 3) (Column 12, Lines 23 – 26). The polyols used generally have a hydroxyl number in the range of 20 to about 800 KOH/g (Page 8, Lines 32 – 33).

While Waddington et al. are silent regarding the amine value of polyol (b2a) (applicant's polyol (D)), Waddington et al. teach a composition prepared with the claimed ingredients and specifically claimed amine compound. Waddington et al. further teach the composition is used to prepare a flexible polyurethane foam. It is thus the Office's position that it would be reasonably expected that the amine-initiated polyether polyol taught by Waddington would have an amine value in the claimed range of 400 to 600 mg KOH/g.

As Waddington et al. teach polyol (b2a) is present in an amount of 0 – 95 weight percent, the range disclosed is broader than the content of polyol (D) claimed by applicant. However, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 220 F.2d 454, 105, 105 USPQ 233 (CCPA 1955) (MPEP 2144.05) At the time of the invention, it would have been obvious to a person of ordinary skill in the art to optimize the amount of polyol (b2a). These polyols are indicated to be catalytically active and, if used in a large enough amount, will eliminate the need for a catalyst entirely. Accordingly, it would be obvious to adjust the amount of polyol (b2a) such that it falls closer to the lower limit of the claimed range when more control and a slower reaction rate is desired (Page 6, Lines 18 – 29; Page 12, Lines 27 – 30). A prima facie case of obviousness may be rebutted, however, where the results of

the optimizing variable, which is known to be result-effective, are unexpectedly good.

*In re Boesch and Slaney*, 617 F.2d 272, 205, 205 USPQ 215 (CCPA 1980) (MPEP 2144.05)

### ***Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

### ***Response to Arguments***

Applicant's arguments filed September 14, 2009 have been fully considered. However, in light of the current amendments to the claims, the rejections in view of Parfondry et al. have been withdrawn and are therefore not applicable to current rejection.

The declaration under Rule 1.132 appears to be directed to the rejection in view of Parfondry et al. which has been removed. The declaration compares a polyurethane foams in which the polyol (D) is prepared by MIBPA (Inventive, Experimentation 1) and by triethanolamine (Comparative, Experimentation 2), as was used in the examples of Parfondry et al. It is asserted that MIBPA has a significantly higher reactivity than triethanolamine. However, the current rejections are based on Waddington et al. in which the polyols may be prepared using MIBPA.

*Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELISSA RIOJA whose telephone number is (571)270-3305. The examiner can normally be reached on Monday - Friday 7:00AM - 3:30PM E.S.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571)272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/  
Supervisory Patent Examiner, Art Unit 1796

/MAR/  
November 21, 2009